

10 **CLAIMS**

What is claimed is:

5 1. A dense wavelength division multiplexer comprising:  
a dual fiber collimator including a lens and a capillary, the capillary for holding a plurality of fibers;  
a filter holder having an aperture therein; and  
a filter disposed between the dual fiber collimator and the filter holder, the filter having a first surface and a second surface opposite to the first surface, the first surface being covered with a filter coating, the filter being affixed to the filter holder by the second surface.

10 2. The dense wavelength division multiplexer of claim 1 wherein the lens is a graduated index of refraction (GRIN) lens or a C-lens.

15 3. The dense wavelength division multiplexer of claim 1 wherein the filter is affixed to the filter holder using high temperature epoxy.

20 4. The dense wavelength division multiplexer of claim 1 wherein the dual fiber collimator further includes a tube for holding and aligning the lens and the capillary.

5. The dense wavelength division multiplexer of claim 4 further comprising a

metal holder for holding the dual fiber collimator, the filter holder and the filter.

6. The dense wavelength division multiplexer of claim 5 wherein the filter holder is soldered to the metal holder.

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7. The dense wavelength division multiplexer of claim 1 further comprising:  
a single fiber collimator optically coupled to the filter, the filter holder disposed  
between the filter and the single fiber collimator, the single fiber collimator for holding an  
output fiber.

8. The dense wavelength division multiplexer of claim 1 wherein the filter further includes an anti-reflective coating on the second surface of the filter.

9. A method for filtering an optical signal using a dense wavelength division multiplexer comprising:

- (a) providing an optical signal to a dual fiber collimator including a lens and a capillary, the capillary for holding a plurality of fibers;
- (b) filtering the optical signal to provide a filtered signal, the optical signal being filtered using a filter held in a filter holder having an aperture therein, the filter having a first surface and a second surface opposite to the first surface, the first surface being covered with a filter coating, the filter being affixed to the filter holder by the second surface.

10. The method of claim 9 wherein the lens is a graduated index of refraction (GRIN) lens or a C-lens.

11. The method of claim 9 wherein the dual fiber collimator further includes a  
5 tube for holding and aligning the lens and the capillary.

12. The method of claim 9 wherein the dual fiber collimator, the filter holder and the filter are held within a metal tube.

13. The method of claim 12 wherein the filter is affixed to the filter holder using high temperature epoxy.

14. The method of claim 9 further comprising the step of:  
(c) outputting the filtered signal using an output filter held by a single fiber collimator, the filter holder disposed between the filter and the single fiber collimator.

15. The method of claim 9 wherein the filter is affixed to the filter holder using high temperature epoxy.